DOCUMENT RESUME

ED 123 874 FL 006 681

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TITLE A Look at Simultaneous Interpretation. Working Papers on Bilingualism, No. 4.
INSTITUTION Ontario Inst. for Studies in Education, Toronto. Bilingual Education Project.
PUB DATE Oct 74
NOTE 23p.; For related documents, see FL 006 638, FL 006 682, FL 006 683, FL 006 684 and FL 006 685.

EDRS PRICE MF-$0.83 HC-$1.67 Plus Postage.
DESCRIPTORS Communication (Thought Transfer); English; French; *Interpreters; Language Ability; Language Patterns; *Language Research; *Language Skills; Speech; *Translation; Verbal Communication
IDENTIFIERS *Simultaneous Interpretation

ABSTRACT

This paper summarizes the findings of an exploratory study concerned with certain temporal and qualitative aspects of simultaneous interpretation. Six French-English interpreters (2 professionals, 2 students and 2 amateurs) translated tape-recorded passages representing different types of materials from their weaker into their dominant language or vice-versa. As analyzed by computer, the translator's (T's) utterance generally shows the same pattern of temporal relationships as natural speech (by speaker S) but is less rhythmical. T speaks for a greater proportion of time than S and his speech rate vis-a-vis S's is greater in relation to prepared than to spontaneous texts. The synchronization of the 2 speech patterns suggests that T makes good use of S's pauses to deliver his version. Characteristically, T lags behind S by 2 to 3 seconds. Various types of translation departures occur (examples are given), and extent of omission is related to input factors such as S speech rate. A number of other observations are noted. (Author)

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A LOOK AT SIMULTANEOUS INTERPRETATION

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Summarizes the findings of an exploratory study concerned with certain temporal and qualitative aspects of simultaneous interpretation. Six French-English interpreters (2 professionals, 2 students and 2 amateurs) translated tape-recorded passages representing different types of materials from their weaker into their dominant language or vice-versa. As analyzed by computer, the translator's (T's) utterance generally shows the same pattern of temporal relationships as natural speech (by speaker S) but is less rhythmical. T speaks for a greater proportion of time than S and his speech rate vis-à-vis S's is greater in relation to prepared than to spontaneous texts. The synchronization of the 2 speech patterns suggests that T makes good use of S's pauses to deliver his version. Characteristically, T lags behind S by 2 to 3 seconds. Various types of translation departures occur (examples are given), and extent of omission is related to input factors such as S speech rate. A number of other observations are noted.

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A LOOK AT SIMULTANEOUS INTERPRETATION[1]

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Simultaneous interpretation is the process of orally converting a message from one language into another as the message is being received. Little research has been done on the subject to date.[2] The present paper summarizes the findings of an exploratory investigation of the issue.

The design of the study represented an experimental analogue to conference interpreting. Six interpreters were required to translate a number of passages recorded on tape, their interpretations being simultaneously recorded as the tape was being played. The passages consisted of different types of materials, ranging from spontaneous, unrehearsed texts to fully prepared formal materials which varied in duration from 3 to 10 minutes. There were a number of grammatical, structural and stylistic differences associated with these various types of materials. Each interpreter (henceforth abbreviated T, for translator) translated five passages from his weaker into his dominant language and three texts from his dominant into his weaker language. Of the six Ts , two were fully qualified professional interpreters, two were 'student' Ts, i.e., persons who had just completed an approved program in interpretation and who were about to begin their professional careers, and two were amateur Ts, persons who were fully bilingual and active in the area of language but who had had no training in simultaneous interpretation and had never attempted it previously. The inclusion of these amateurs in the study was to see how they might perform in this completely novel situation and to determine in what major respects their mode of behaviour differed from that of more qualified Ts - aside, of course, from the

inferior performance to be expected from them. Of the two Ts in each category, one was English-dominant, the other French-dominant.

A primary concern of the investigation was to analyze the temporal characteristics of 'interpreted' speech, i.e., the utterance of the T, and to compare such speech with 'normal' speech, i.e., the utterance of the original speaker (S). This analysis was performed by computer (for details, see Barik 1972). Among the issues considered was what may be termed the 'synchronization' of the S and T utterances: how much overlap is there between periods of speech and silence on the part of S and on the part of T? It was anticipated that T might try to take advantage of the pauses in S's delivery to deliver his own version, so as to reduce the extent of time during which he would have to speak and listen concurrently, as happens when T speaks while S is also speaking.[3] (For these analyses to be carried out, a minimum pause duration had to be specified for the computer to act upon. On the basis of a number of considerations and some preliminary testing, this criterion was set at 6/10 sec., i.e., a break in the flow of speech had to be at least of that duration to be judged representative of a pause in the person's delivery.) Another temporal issue considered was the time lag between S and T, i.e., how far behind S the T operated. The study also considered various 'qualitative' issues, such as types of events giving rise to difficulties of interpretation, a description of the kinds of errors committed, etc. Examples of the various types of events recorded are to be found in the Appendix (and are further discussed in Barik, 1971, 1975).

The main findings of the investigation are as follows:

1. 'Interpreted' speech generally shows the same temporal characteristics as 'natural' speech. In natural speech, for example, it is generally found that as speech proportion increases, i.e., as S speaks proportionally more and pauses proportionally less in relation to the total duration of the passage, speech bursts - the segments of vocal activity in the flow of speech that are separated from each other by breaks or pauses - become longer and less uniform in duration, and pauses, on the other hand, become shorter and more uniform in duration. These same relationships are found to hold in interpreted speech also. This does not mean, however, that for any one passage the temporal characteristics of the S and of the T speech patterns are

identical; some measures may be consistently greater in the case of the one or of the other, as noted in some of the following points.

2. When T omits little or no material in his translation (a correction can be introduced in the data to allow us to make statements about 'omission-free' translation), it is found that he is generally engaged in speaking for a greater proportion of the time than S. This is due not so much to a greater wordiness on his part as to a slower articulation, which reflects the greater hesitancy of T, who depends upon S's utterance for content.

3. The ratio of T's speech rate or 'wordiness' index (number of words or syllables uttered per minute of time) to that of S is greater in relation to prepared texts than to spontaneous texts. This finding can be accounted for on the basis of the greater degree of conciseness of prepared materials, which require a lengthier phrasing when they are converted to a more spontaneous form of expression, as occurs in interpretation.

4. Interpreted speech is less rhythmical than natural speech, as indicated by a greater degree of variation in the durations of speech segments and of pauses in T's utterances than in the corresponding Ss' versions.

5. The synchronization data lend support to the suggestion that T takes advantage of S's pauses to deliver his version: the proportion of time during which speech on the part of T is recorded while S is silent, i.e., while pauses are occurring in S's delivery, is greater than would be expected if T's utterance were assumed to be independent of the location of these pauses. (The expected values can be calculated on the basis of the amount of speech and of silence associated with S and T separately.) These findings are seen as indicative of a facilitative strategy on the part of T, who tries to reduce the extent to which he must be simultaneously engaged in speaking and listening. (Certain linguistic factors probably also contribute to these findings.)

6. T characteristically lags behind S by 2 to 3 seconds.[4]

7. With regard to the temporal data, there do not appear to be major differences among the various categories of Ts (professionals, students, and amateurs), nor on the basis of whether interpretation is from the T's weaker into his dominant language or vice versa.

8. In the 'qualitative' analysis, obviously, less qualified Ts are found to omit more material and make more errors of translation than more qualified Ts, and are also much more literal in their interpretations. More qualified Ts perform about as well in either direction of translation, while less qualified Ts generally do better interpreting from their dominant into their weaker language, not only omitting less material and making fewer errors, but also showing proportionally fewer 'serious' omissions and errors in such interpretation than in interpretation from their weaker into their dominant language.

9. Certain relationships exist between qualitative and quantitative or temporal data. For example, it is found that the wordier S is, i.e., the higher his speech rate, the more material T omits in translation. There is also a relationship between the amount of material omitted and the time lag measure: the greater the delay at which T operates behind S, the more material he is likely to omit.

10. Where S pauses in his delivery affects translation performance: a negative relationship is found between the number of pauses occurring at grammatical juncture points in S's delivery and the amount of material omitted by T. This relationship is independent of the total number of pauses (including nongrammatical pauses) in S's delivery. The locus of pauses is thus an important variable.

11. One category of words giving rise to difficulties in interpretation is that of function words such as prepositions and conjunctions, which may have different meanings depending upon the construction of the sentence. This problem is related to that of the time lag: T must lag sufficiently behind S to recognize the meaning assigned to a function word in a particular context, though not so far behind as to have to omit material in order to keep up with S.

12. Another class of words which appears to give interpreters problems is that of abstract words or concepts, some of which may be relatively common, which lack cognate forms or which have slightly different connotations in the two languages.

13. An interesting observation is the occasional reversal in interpretation of the order of occurrence of a set of structurally equivalent items. For example, the sequence "French and English" might be rendered in translation as "English and French", or the sequence "the classroom and the laboratory" as "the laboratory and the classroom". A number of such reversals were in fact noted, and although some of them were no doubt intentional, the occurrence of these events permits speculation concerning the nature of the mechanisms involved in the storage and retrieval of information in interpretation.

The above findings, along with a number of other observations arising from the study, provide a basis for a more systematic investigation of simultaneous interpretation and, it is hoped, for a clear definition of the process, for the topic is of relevance to a number of issues relating to speech and language.[5]

APPENDIX

Types of omissions, additions and errors recorded in simultaneous interpretation[6]

1. Omissions, referring to items present in the original version, which are left out of the translation by the T (exclusive of contextually irrelevant repetitions, false starts, etc., and excluding also material not to be found in the translation due to its involvement in a substitution or error of translation, which necessarily consists of the "omission" of one item and the "addition" of another in its place).

Four main types of events fall under the heading of omissions:

a) 01, skipping omission: the omission of a single lexical item such as a qualifier or a short phrase which appears to be skipped over by the T and which is of minor consequence.

E.g. S version: ... un instrument assez difficile...
(... a rather difficult instrument...)
T version: ... a difficult instrument...

b) 02, comprehension omission: the omission of a larger unit of text due to the T's inability to comprehend or translate it, resulting in a definite loss in meaning and sometimes in disjointed speech.

E.g. S version: ... depuis l'époque où il avait coutume de venir nous voir il y a des années à la Jamaïque. Je n'ai jamais admiré ou aimé personne plus que lui...
(... since the time when he used to come to see us years ago in Jamaica. I have never admired or loved anyone more than him...)
T version: ... since the time when years ago... I have never...

c) 03, delay omission: the omission of a larger unit of text, similar to 02, but seeming to be due primarily to the delay of the T in relation to S (as judged from monitoring the two versions) at a particular point in the text, which causes him to fail to register or to have to bypass part of the text in order to catch up. The assumption here is that T may have been able to translate the omitted segment had he not lagged too far behind at that point. There is a certain subjective element in determining whether a particular instance of omitted material represents an omission of type 02 or 03; functionally, the two types are equally disruptive.

d) 04, compounding omission: omission associated with the T's regrouping or compounding of elements from different clause units, resulting in a sentence with a meaning slightly different from the original, though the gist of the latter is retained.

E.g. S version: J'étais à Londres mercredi soir lorsque la nouvelle s'est répandue...que...
(I was in London Wednesday evening when the news spread...that...)

T version: Wednesday evening the news spread that...

This instance is not a case of disjointed translation (...Wednesday evening...the news spread that...) as in 02, since the T's delivery is quite smooth, and it appears that he selectively omitted certain items and regrouped material from different clause units, forming a new entity.

In addition to the above types of omissions, some other instances of omitted material were noted but excluded from the coding scheme, since they represent inconsequential omissions, some of which, as in ii) below, are even desirable. Among these were the following: i) omission of connective "and" (or French *et*) between words, phrases or sentences, where its omission is not disruptive; ii) omission of superfluous and often untranslatable material, in the form of "fillers" such as *well, now, you know,* etc. in English or *n'est-ce pas, eh bien,* etc. in French; iii) omission of definite articles, etc., which

should have been given; iv) omission of specification, e.g., employing a pronoun in the place of a noun, where the referent is understood from the context. Such omissions are quite acceptable in simultaneous interpretation.

2. Additions, referring to items not to be found in the original, which are added to the text by the T (exclusive of repetitions, false starts, etc., on T's part, and of new material introduced in conjunction with a substitution or error of translation). Here also, four types of events may be specified:

a) A1, qualifier addition: the addition by the T of a qualifier or short qualifying phrase not in the original version.

E.g. S version: ... ils gardaient tous deux enracinés en eux...
(...they both kept rooted within themselves...)
T version: ... they both had deeply rooted with themselves...

b) A2, elaboration addition: similar to A1, but more elaborate and (sometimes) more extraneous to the text. (Addition types A1 and A2 could be combined into a single category.)

E.g. S version: ...Je dois rester conscient de ce qui est juste...
(...I must remain aware of what is just...)
T version: ... I must be aware and conscious of what is just and fair...

c) A3, relationship addition: the addition of a connective or other material which introduces a relationship among sentence units not specified in the original.

E.g. S version: ...J'ai beaucoup apprécié aussi l'interprétation du film. Les deux grandes vedettes étaient...
(...I also very much enjoyed the performance of the actors. The two main stars were...)
T version: ...I also enjoyed very much the performance of the actors... because the two stars were...

d) A4, closure addition: addition which accompanies rephrasing, omission or misinterpretation on the part of the T and which serves to give "closure" to a sentence unit, but does not add anything substantial to the sentence.

E.g. S version: ... des messieurs qui décident...du choix des livres qu'iis vont publier et de la façon dont ils vont le faire... (... persons who decide... which books they are going to publish and the way in which they are going to do it...)

T version: ... men who decide... the selection of the books which are going to be published and how they're going to be offered to the public...

It is surmised in this example that the T has misinterpreted some of the text, possibly misunderstanding something relating to "offert" ("offered")instead of "le faire" ("to do it"). To give closure to the sentence, the phrase "to the public", which is extraneous to the text, is added, though it too may be due to a misunderstanding of, or be "triggered" by the word "publier".

A few other instances of minor additions were noted but disregarded , such as the frequent addition of the connective "and" between separate units, the specification of an item expressed pronominally in the original, etc.

3. Substitutions and errors, referring to material substituted by the T for something said by the S and involving a speech segment ranging from a single lexical item to a complete sentence unit. Five types of substitutions (or errors) were recorded:

a) E1, mild semantic error: an error or inaccuracy of translation of some lexical item, which only slightly distorts the intended meaning. Such errors may be associated with an awkward translation. The inaccuracy is restricted to the lexical item or expression, and does not affect the

rest of the unit of which it is part.

E.g. S version: ... il n'a jamais montré le malveillance ni de méchanceté...
(... he never showed ill-will or maliciousness...)
T version: ... he never showed an evil mind or an evil reaction...

The T's version is slightly awkward and inaccurate, but the gist of what is said is fairly well retained.

b) E2, gross semantic error: error of translation of some lexical item which substantially changes the meaning of what is said. Here again, the error is primarily in terms of a specific item and does not affect the rest of the unit. Three types of events fall in this category:

i) error due to confusion with homonym or near-homonym.

E.g. S version: ...l'autocritique est l'arme secrète de la démocratie...
(...self-criticism is the secret weapon of democracy...)
T version: ... (self-criticism is) the secret soul of democracy...

In this example the T apparently misunderstood "l'âme" (soul) for "l'arme" (weapon).

ii) error due to confusion of reference, having its basis in the text.

E.g. S version: ... ce qui n'empêche pas les enfants de la nouvelle génération d'être plus grands que leurs parents...
(... which does not prevent the children of the new generation from being taller than their parents...)
T version: ... which doesn't prevent children... from being taller than their children...

(This type of error is possibly less damaging than the previous

since the listener can probably figure out the T's mistake, which might not be the case in i) above.)

iii) "straightforward" error of translation, not due to confusion.

E.g. S version: ...et (il) se demande, avec quelque angoisse...
(...and he is wondering, with some anxiety...)
T version: ...and he looks, with some anxiety...

c) E3, mild phrasing change: the T does not say quite the same thing as the S, but the gist of what is said is not affected.

E.g. S version: ... dans ce Conseil qu'il a si fortement marqué de sa personnalité...
(... in this Council which he so strongly marked with his personality...
T version: ...in this Council to which he gave so much of his personality...

Such phrasing changes are very mild and are generally acceptable within the context of simultaneous interpretation, where the T is allowed a certain latitude in his wording.

d) E4, substantial phrasing change: here, the change in phrasing is more marked and leads to a difference in meaning, but the overall gist of what is said by the S is not too distorted.

E.g. S version: ...je trouve que ce film est une réussite, une manière de réussite...
(...I think that this film is a success, a kind of success...)
T version: ...I would like to say that this is an excellent film, that it was a great success...

The T here has substantially rephrased what the S was saying, making the statement much more positive than the original, but his translation retains the gist of the message.

e) E5, gross phrasing change: a translation departure which represents a considerable difference in meaning and is thus quite erroneous. Such errors may be attributable to different events:

i) "straightforward" error of translation

E.g. S version: ... qui occupent dans cette maison un emploi salarié...
(... who hold in this (publishing) house a salaried position...)
T version: ... who are even paid by this publisher...

ii) the T seems to "make up" something on the basis of some part of the text. This may be due to his lack of comprehension of what is said, or because of his lagging too far behind the S, which prevents him from fully understanding what S has said, and he consequently tries to "fib" his way through the text on the basis of some word in it.

E.g. S version: ... je dois garder enracinés en moi certains principes...
(... I must keep rooted within myself certain principles...)
T version: ... [substantial delay] ... and there are certain roots to this...

iii) error due to misunderstanding of some item:

E.g. S version: ... (des écrivains qui)...n'y occupent aucun autre emploi sinon celui de lecteur...
(... (writers who)... hold there no other position except that of a reader...)
T version: ... they have another job which is that of a reader...

The T here appears to have misunderstood "un autre" (another) for "aucun autre" (no other), resulting in a meaning almost opposite to what the S said. This type of error is similar to type E2i, but it affects the meaning of the whole unit rather than just one word.

Other events were also classified in category E5: meaningless or confused translations, reversals of meanings, transforming a question into a statement, etc.[7]

Further Examples of Interest

1. False start due to inappropriate segmentation (and time lag) on the part of T.

E.g. S version: "In the past thirty or forty years..."
T version: "Dans le passé ... en et-/ dans les quarant/é/rieuses années..."

Here the T selected as the unit of translation the phrase "in the past", starting to translate immediately after this was uttered, and thus misinterpreting "past" as a noun rather than as a qualifier. Since in French the resulting construction is different in the two conditions, the T must subsequently retrace what he said, leading to confusion. The garbled expression "quarant/é/rieuses" combines elements of "quarante" (forty) and "antérieures" (previous).

2. Error due to misinterpretation of function word.

E.g. S version: "... mais, comme le Président Kennedy, nous pensions qu'il était à nous tous..."
("... but, as with President Kennedy, we thought that he belonged to us all...")
T version: "... but because the President Kennedy (uh) was also... a human being..."

Here the T misinterprets the meaning of "comme", considering it as the conjunction meaning "since" or "because" rather than as the preposition meaning "like" or "as with", which it has in this context[8]. This leads to a very different type of construction, with the consequence that the T becomes confused and is unable to assimilate the rest of the sentence to his translation, which becomes meaningless.[9] (The example is taken from one of the amateur Ts' corpus.)

3. Interference from source language.

E.g. S version: "Mercredi soir à Londres on a projeté à la télévision..."
("Wednesday evening in London there was shown on television...")
T version: " Mertredi soir 'inodre' (?) showed a f- -in film..."

Here the T, in a very natural delivery and with a distinct English pronunciation, repeated part of the original text, apparently not realizing that this was happening. "Mercredi" is changed slightly to "mertredi", and "à Londres" is rendered as "inodre" (?), where possibly "à" is translated (in) and "Londres" gives rise to "odre".

4. Difficulties with differing grammatical constructions.

Problems arise in interpretation with respect to syntactical differences between source and target language, resulting not infrequently in awkward translations. This issue relates to the adequacy of the time lag observed by the T.

E.g.1 superlative construction.
S version: "... et les journaux parisiens les plus intransigeants, les plus difficiles..."
("... and the most intransigeant, the most demanding Parisian newspapers...")
T1 version: "... and the Parisian newspapers which are among the most severe..."
T2 version: "... and the French press is a ... usually very difficulty to satisfy, very intransigeant..."[10]

E.g.2 possessive construction.
S version: "Governor Stevenson's eloquence and his wit and his courage..."
T version: all Ts "jumped the gun" and started translating "Le gouverneur (Stevenson)...", having subsequently to retrace or alter their wording when the construction became apparent.

FOOTNOTES

[1] This paper is adapted from an article of the same title which appeared in Language Sciences (1973, no. 26, pp. 35-36). The Appendix and a number of references which may be useful to the reader have been added. The paper is based on an unpublished doctoral dissertation (Barik, 1969). Summaries of the work have appeared elsewhere. For a more detailed presentation, see Barik, 1973, 1975.

[2] At the time that the research reported here was undertaken, only one study concerned specifically with simultaneous interpretation had been reported in the literature (Oléron and Nanpon, 1965). Since then a few additional investigations have been carried out, notably by Gerver (1969, 1971, 1972, 1974a, 1974b) and Goldman-Eisler (1967, 1968, 1972; Goldman-Eisler and Cohen, 1974). See also Lawson, 1967; Treisman, 1965; and Paneth, 1957 (summarized by Hanna, 1958). Some work has also been done in the Soviet Union (e.g., Tsvilling, 1966, cited by Kade and Cartellieri, 1971; methodological considerations, Chernov, 1969). There also exist a number of works on interpretation and the training of interpreters (e.g., Herbert, 1968; Ilg, 1959; Seleskovitch, 1968; van Hoof, 1962; also A.I.I.C., 1965, summarized by de Morawitz, 1966). For the status of interpretation in Canada, see Nilski, 1967. Also of relevance are two special issues of Journal des Traducteurs (now Meta; 1958, vol. 3, no. 1) and Babel, Revue Internationale de la Traduction (1962, vol. 8, no. 1) devoted to simultaneous and conference interpreting. On the related topic of consecutive interpretation, see Rozan, 1956; Seleskovitch, 1973.

[3] As Goldman-Eisler (1967) points out, the "intermittent silence between chunks of speech [in the speaker's utterance] is ... a very valuable commodity for the simultaneous translator; for the more of his own output he can crowd into his source's pauses, the more time he has to listen without interference from his own output". (p. 128).

[4] This measure is in good agreement with that reported by other investigators (Oléron and Nanpon, 1965; Treisman, 1965) as well as by interpreters themselves (van Hoof, 1962, p. 133). It may however vary to some extent depending upon the languages involved.

[5] Neisser (1967, p. 217), for example, points to simultaneous interpretation in arguing against a motor theory of speech perception.

Simultaneous interpretation can also be applied to language teaching (Gramer, 1973).

[6] From Barik, 1969 (see 1971, 1975).

[7] The coding scheme described above is intended to provide only a general categorization of events. Within each class of events, further refinements can be made. Other categorization schemes may also be advanced. Gerver (1969), for example, specifies eight categories of discontinuities between original text and translation: omissions of words, omissions of phrases, omissions of longer stretches of input of eight words or more, substitutions of words, substitutions of phrases, corrections of words and corrections of phrases. As can be seen, there is considerable overlap between Gerver's coding scheme and the one described here.

[8] The original, however, is somewhat ambiguous, since as it stands it means "we thought in the same way as President Kennedy did, that he (=someone else) belonged to all of us" rather than the intended meaning of "we thought that he belonged to all of us, as was the case with President Kennedy". The original should more properly have read "nous pensions que, comme le Président Kennedy, il était à nous tous."

[9] Though it may be speculated that the T's translation is due to a reinsertion of "comme" in the last part of the sentence, yielding "il était comme nous tous" ("he was like all of us", hence he "was also a human being").

[10] Note reversal of terms from original, see point 13, p. 25.

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